

AMENDMENTS TO THE CLAIMS

The following claims replace all prior versions and listings of claims in the application:

1 (currently amended). A computer method for testing a test unit, comprising:
connecting said test unit to a testing system in a laboratory environment, wherein the test unit is off-line from the normal installation of the test unit;
receiving an output of said test unit into a said testing system, wherein the testing system performs a real-time exchange of one of time-critical and state-critical messages and data representing real-time inputs and outputs to and from the test unit for a protocol as if the unit is on-line in its normal installation;
providing an expert system operably connected to said testing system;
comparing, in said expert system, said output with an expected result for said ~~output~~ protocol at each one of said time-sensitive and state sensitive inputs and outputs; and
determining, in said testing system, if said output complies with said expected result.

2 (currently amended). The method of claim 1, further comprising:
analyzing the output for fact data in said expert system;
analyzing the output for rule data in said expert system; and

evaluating relationships of the facts and the rules within said output across multiple input and output data units exchanged between the test system and the test unit to determine compliance of said output with said ~~expected result~~ protocol at each one of said time-sensitive and state sensitive inputs for the expected protocol output rule data and fact data resulting from the inputs.

3 (original). The method of claim 1, wherein said test unit comprises a software code.

4 (original). The method of claim 1, further comprising:
entering an input into said test unit from said testing system; and
comparing said output with said expected result according to said input.

5 (original). The method of claim 1, further comprising:
entering an input into said test unit from said testing system; and
comparing said output with an anticipated response of said test unit according to said input.

6 (original). The method of claim 1, further comprising:
receiving a second output of a second test unit into said testing system;

comparing, in said expert system, said second output with a second expected result for said second output; and

determining, in said testing system, if said second output complies with said second expected result.

7 (currently amended). The method of claim 6, further comprising:

providing a communication link between said test unit and said second test unit, wherein said second test unit is connected said test unit in the laboratory environment, wherein the second test unit is off-line from the normal installation of the second test unit;

capturing a communication data transferred between said test unit and said second test unit, wherein the capturing captures a real-time exchange of one of time-critical and state-critical messages and the data representing real-time inputs and outputs to and from the first test unit and the second test unit for the protocol as if the second test unit is on-line in its normal installation; and

analyzing, in a protocol analyzer, ~~said communication data~~ outputs from said second test unit for compliance with ~~a second expected result~~ the real-time protocol exchange between the first test unit and the second test unit.

8 (original). The method of claim 6, further comprising:
entering an input into said second test unit; and
comparing said second output with said second expected result according to
said input.

9 (original). The method of claim 1, further comprising:
providing a user interface module in said testing system that provides an
external input and external output for the testing system.

10 (original). The method of claim 1, further comprising:
providing a computer interface module in said testing system that provides an
external input and external output for the testing system.

11 (currently amended). A system for testing a test unit, comprising:
a processor, comprising:
a testing module for receiving an output of said test unit,
wherein the test unit is connected said test unit to a testing system in a
laboratory environment, wherein the test unit is off-line from the normal installation of
the test unit, and
wherein the testing system performs a real-time exchange of one of time-critical

and state-critical messages and data representing real-time inputs and outputs to and from the test unit for a protocol as if the unit is on-line in its normal installation; and
an expert system for comparing said output with an expected result for said output and for determining if said output complies with said expected result for said protocol at each one of said time-sensitive and state sensitive inputs and outputs.

12 (currently amended). The system of claim 11, wherein said expert system analyzes said test unit output for a fact data, analyzes the said test unit output for a protocol rule data, evaluates relationships of said fact data and said rule data between a plurality of outputs of said test unit across multiple input and output data units exchanged between the test system and the test unit, and determines whether said output complies with said ~~expected result~~ protocol at each one of said time-sensitive and state sensitive inputs for the expected protocol output rule data and fact data resulting from the inputs.

13 (original). The system of claim 11, wherein said test unit comprises a software code.

14 (original). The system of claim 11, further comprising:
a control module for entering an input into said test unit,

wherein said expert system compares said output with said expected result according to said input.

15 (original). The system of claim 11, further comprising:
a control module for entering an input into said test unit,
wherein said expert system compares said output with an anticipated response of said test unit according to said input.

16 (original). The system of claim 11, further comprising:
a second test unit operably connected to said testing system,
wherein said testing system receives a second output of said second test unit, and
wherein said expert system compares said second output with a second expected result for said second output and determines if said second output complies with said second expected result.

17 (currently amended). The method of claim 16, further comprising:
a communication link between said test unit and said second test unit wherein said second test unit is connected said test unit in the laboratory environment, wherein the second test unit is off-line from the normal installation of the second test unit;

and a protocol analyzer, operably connected to said testing system,
wherein said testing system ~~receives a communication data transferred between~~
~~said test unit and said second test unit~~ captures a real-time exchange of one of time-
critical and state-critical messages and the data representing real-time inputs and
outputs to and from the first test unit and the second test unit for the protocol as if the
second test unit is on-line in its normal installation, and
wherein said protocol analyzer analyzes said communication data for
compliance with ~~said second expected result~~ the real-time protocol exchange between
the first test unit and the second test unit.

18 (original). The system of claim 11, further comprising:
a user interface module in said testing system for providing an external input and
output into said testing system.

19 (original). The system of claim 11, further comprising:
a computer interface module in said testing system for providing an external
input and output into said testing system.